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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/530,751	04/08/2005	Jun Hagihara	Q87381	7326
65565	7590	08/09/2010		
SUGHRUE-265550				
2100 PENNSYLVANIA AVE. NW				
WASHINGTON, DC 20037-3213				
EXAMINER				
PATTON, SPENCER D				
ART UNIT		PAPER NUMBER		
3664				
NOTIFICATION DATE		DELIVERY MODE		
08/09/2010		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

SUGHRUE265550@SUGHRUE.COM

USPTO@SUGHRUE.COM

PPROCESSING@SUGHRUE.COM

### Office Action Summary

**Application No.**

10/530,751

**Applicant(s)**

HAGIHARA ET AL.

**Examiner**

SPENCER PATTON

**Art Unit**

3664

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 June 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3, 5 and 6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5 and 6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 June 2010 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB-08)  
Paper No(s)/Mail Date 3/18/2010; 4/7/2010
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. The amendments filed 6/15/2010 have been entered. Claims 1-3, 5 and 6 are pending.

#### ***Specification***

2. The disclosure is objected to because of the following informalities:

In the first two paragraphs of [BACKGROUND ART] "2-freedom degree" should be changed to --2-degree of freedom--.

"1-rank differential" and "N-rank differential" should be changed to --1<sup>st</sup> order differential-- and --N<sup>th</sup> order differential-- respectively. All variations of these terms should be corrected throughout the specification, abstract and claims.

Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

**Claims 1-3** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The limitations "wherein N is equal to or

greater than a value defined by subtracting an order of the command from an order of denominator of a transfer function of an approximation model that represents the controlled object with Laplace operator,” “wherein L is an order of *denominator* of a transfer function of an approximation model that represents the controlled object with Laplace operator” and “wherein N is equal to or greater than a value defined by subtracting an order of the command from L” are not supported by the application as filed.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. **Claims 1-3, 5 and 6** are rejected under 35 U.S.C. 102(b) as being anticipated by Yamamoto et al (JP 10-149210).

Yamamoto et al teaches:

**Re claim 1.** An optimum command producing apparatus configured to receive a command, process the command in such a manner that a controlled object implements a desirable operation and output an optimum command value to a servo control apparatus, the apparatus comprising:

an N-order filter processing section configured to carry out an N-order filter processing for the command and calculate values from a 1-order differential value to an

(N-1)-order differential value of the command subjected to the filter processing, wherein N is an integer of 2 or more (instruction generation part 1, Figure 1; generates first through fifth differential values of theta); and

an arithmetic unit configured to calculate a value obtained by multiplying each of the values calculated by the N-order filter processing section by a corresponding one of gains (instruction generation part 1, Figure 1; multiplies each differential value of theta by coefficients  $a_{1-5}$ ), and

wherein N is equal to or greater than a value defined by subtracting an order of the command from an order of denominator of a transfer function of an approximation model that represents the controlled object with Laplace operator (paragraph [0011]).

**Re claim 2.** The limitations omitted from claim 2 are addressed at Re claim 1.

an M-order filter processing section configured to perform an M-order filter processing the value calculated by the arithmetic unit wherein M is an integer of 1 or more (position control part 3, Figure 1; this is a first order filter).

**Re claim 3.** An optimum command producing apparatus configured to receive a command, process the command in such a manner that a controlled object implements a desirable operation and output an optimum command value to a servo control apparatus, the apparatus comprising:

an N-order filter processing section configured to carry out an N-order filter processing for the command and calculate values from a 1-order differential value to an

L-order differential value of the command subjected to the filter processing, wherein N is an integer of 2 or more and L is an integer of 1 or more (instruction generation part 1, Figure 1; generates first through fifth differential values of theta); and

an arithmetic unit configured to multiply each of the values calculated by the N-order filter processing section by a corresponding one of gains, and then sum all of the resulting products (instruction generation part 1, Figure 1; multiplies each differential value of theta by coefficients  $a_{1-5}$  and then sums them in filter 6 as shown in equation 2),

wherein L is an order of denominator of a transfer function of an approximation model that represents the controlled object with Laplace operator (equation 2), and

wherein N is equal to or greater than a value defined by subtracting an order of the command from L (paragraph [0011]).

**Re claim 5.** Wherein a recursive type filter or a non-recursive type filter is used for the N-order filter (instruction generation part 1, Figure 1).

**Re claim 6.** Wherein the optimum command value is one of a position command, a speed command, an acceleration command and a torque command or a combination thereof (position command theta, Figure 1).

***Response to Arguments***

6. Applicant's arguments, see pages 8-10, filed 6/15/2010, with respect to the objections to the specification and claims and 35 U.S.C. 112 rejection of the claims have been fully considered and are persuasive. The previous objection of the specification and claims and the 35 U.S.C. 112 rejection of the claims has been withdrawn, however new objections and rejections have been made based on the amendments.
7. Applicant's arguments with respect to claim 1-6 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SPENCER PATTON whose telephone number is (571)270-5771. The examiner can normally be reached on Monday-Thursday 7:30-5:00; Alternating Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Khoi Tran can be reached on (571)272-6919. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/SPENCER PATTON/  
Examiner, Art Unit 3664  
/KHOI TRAN/  
Supervisory Patent Examiner, Art Unit 3664